

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-2 (canceled)

Claim 3 (currently amended): ~~The multistage space-efficient electrostatic collector according to claim 2~~ A multistage space-efficient electrostatic collector for cleaning a gas flowing therethrough along a gas flow path comprising a first stage comprising a first corona discharge zone along said gas flow path, and a second stage comprising a second corona discharge zone along said gas flow path and spaced along said gas flow path from said first corona discharge zone, and comprising a corona discharge electrode and two ground planes, said first corona discharge zone being between said corona discharge electrode and the first of said ground planes, said second corona discharge zone being between said corona discharge electrode and the second of said ground planes, wherein said second ground plane comprises a canister
5 extending axially along an axis, and said corona discharge electrode comprises a hollow drum in said canister and extending axially along said axis, said first corona discharge zone being inside said drum, said second corona discharge zone being outside said drum.
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Claim 4 (original): The multistage space-efficient electrostatic collector according to claim 3 wherein said first ground plane is inside said drum.

Claim 5 (currently amended): ~~The multistage space-efficient electrostatic collector according to claim 2~~ A multistage space-efficient electrostatic collector for cleaning a gas flowing therethrough along a gas flow path comprising a first stage comprising a first corona discharge zone along said gas flow path, and a second stage comprising a second corona discharge zone
5 along said gas flow path and spaced along said gas flow path from said first corona discharge

zone, and comprising a corona discharge electrode and two ground planes, said first corona discharge zone being between said corona discharge electrode and the first of said ground planes, said second corona discharge zone being between said corona discharge electrode and the second of said ground planes, wherein each of said corona discharge electrode and said
10 second ground plane is annular, and each of said first and second corona discharge zones is an annulus.

Claim 6 (original): The multistage space-efficient electrostatic collector according to claim 5 wherein said second ground plane and said second corona discharge zone and said corona discharge electrode and said first corona discharge zone are concentric.

Claim 7 (original): The multistage space-efficient electrostatic collector according to claim 6 wherein said first corona discharge zone concentrically surrounds said first ground plane.

Claim 8 (original): The multistage space-efficient electrostatic collector according to claim 7 wherein said corona discharge electrode concentrically surrounds said first corona discharge zone, said second corona discharge zone concentrically surrounds said corona discharge electrode, and said second ground plane concentrically surrounds said second corona discharge
5 zone.

Claim 9 (original): The multistage space-efficient electrostatic collector according to claim 8 wherein said first ground plane is annular and defines an initial gas flow zone therethrough along said gas flow path and spaced along said gas flow path from said first and second corona discharge zones, and wherein said first ground plane concentrically surrounds said initial gas
5 flow zone.

Claims 10-16 (canceled)

Claim 17 (currently amended): ~~The multistage space-efficient electrostatic collector according to claim 16~~ A multistage space-efficient electrostatic collector for cleaning a gas flowing therethrough along a gas flow path comprising a first stage comprising a first corona discharge zone along said gas flow path, and a second stage comprising a second corona discharge zone along said gas flow path and spaced along said gas flow path from said first corona discharge zone, wherein said gas flow path comprises an initial gas flow zone directing gas flow therethrough prior to gas flow through said first corona discharge zone, wherein said gas flow path is a serpentine path comprising said initial gas flow zone, said first corona discharge zone and said second corona discharge zone, wherein said gas flow path comprises a first flow reversal zone between said initial gas flow zone and said first corona discharge zone, and a second flow reversal zone between said first corona discharge zone and said second corona discharge zone.

Claim 18 (original): The multistage space-efficient electrostatic collector according to claim 17 wherein gas flows in a first flow direction along said initial gas flow zone, then reverses and flows in a second flow direction along said first corona discharge zone, then reverses and flows in a third flow direction along said second corona discharge zone, said second flow direction being parallel and opposite to said first and third flow directions.

Claims 19-20 (canceled)

Claim 21 (original): An electrostatic collector comprising a canister extending axially along an axis between an inlet end and an outlet end and having an inwardly facing inner wall providing a first collector electrode, a corona discharge electrode in said canister comprising a hollow

drum extending axially along said axis and having a plurality of corona discharge elements,
5 said drum having an outer wall facing said inner wall of said canister and defining an outer
annular flow passage therebetween, said drum having an inner wall defining a hollow interior, a
hollow tubular post extending from said inlet end of said canister axially into said canister and
axially into said hollow interior wall of said drum, said post having an outer wall facing said
inner wall of said drum and defining an inner annular flow passage therebetween, said outer
10 wall of said post providing a second collector electrode, said post having an inner wall defining
a hollow interior providing an initial flow passage, wherein gas to be cleaned flows in a first
axial direction along a first flow path segment through said initial flow passage along said
hollow interior of said post, then flows in a second opposite axial direction along a second flow
path segment through said inner annular flow passage along said outer wall of said post and
15 said inner wall of said drum, then flows in said first axial direction along a third flow path
segment through said outer annular flow passage along said outer wall of said drum and said
inner wall of said canister.

Claim 22 (original): The electrostatic collector according to claim 21 wherein said corona
discharge elements comprise a plurality of inner discharge tips protruding radially inwardly into
said inner annular flow passage toward said outer wall of said post such that said inner
discharge tips protrude into said second flow path segment.

Claim 23 (original): The electrostatic collector according to claim 22 wherein said corona
discharge elements further comprise a plurality of outer discharge tips protruding radially
outwardly into said outer annular flow passage toward said inner wall of said canister such that
said outer discharge tips protrude into said third flow path segment.

Claim 24 (original): The electrostatic collector according to claim 21 wherein said outer annular flow passage is concentric to and radially outward of said inner annular flow passage, and said inner annular flow passage is concentric to and radially outward of said initial flow passage.

Claim 25 (original): The electrostatic collector according to claim 24 wherein said gas flows in a serpentine flow path through said canister, including a first U-shaped bend between said first and second flow path segments, and a second U-shaped bend between said second and third flow path segments.

Claims 26-33 (canceled)

Claim 34 (currently amended): ~~The method according to claim 33~~ A method for increasing residence time within a corona discharge zone of gas flowing through an electrostatic collector comprising directing gas flow along a first corona discharge path in said electrostatic collector and then directing gas flow along a second corona discharge path in said electrostatic collector,
5 and comprising directing gas flow along an initial flow path in said electrostatic collector prior to directing gas flow along said first corona discharge path, and comprising directing gas flow in a serpentine path through said electrostatic collector comprising said initial flow path, said first corona discharge path and said second corona discharge path, and
10 comprising performing a first flow reversal between said initial flow path and~~second~~ said first corona discharge path,
and performing a second flow reversal between said first corona discharge path and said second corona discharge path.

Claim 35 (original): The method according to claim 34 comprising directing gas flow in a first flow direction along said initial flow path, then reversing gas flow and directing gas flow in a

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second flow direction along said first corona discharge path, then reversing gas flow and directing gas flow in a third flow direction along said second corona discharge path, said second
5 flow direction being parallel and opposite to said first and third flow directions.

Claims 36-37 (canceled)